

# Poecilometis vallicola spec. nov. and some other species of Poecilometis Dallas from northwestern Australia\*)

(Insecta, Heteroptera, Pentatomidae)

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## Abstract

For six species and an additional subspecies of the Pentatomid genus *Poecilometis* Dallas from northern and northwestern Australia collecting records are presented. *Poecilometis vallicola* spec. nov. from the Hamersley Range is newly described. New records of the very rare *Poecilometis mimicus* (Distant) reveal that this species ranges apparently over whole northwestern Australia north of Great Sandy Desert.

## Introduction

*Poecilometis* Dallas is a well known genus of large, conspicuous, tree-living shield bugs distributed over the whole of Australia. Although the genus was rather recently monographed by GROSS (1972), several species are yet known from few specimens and the real distribution of many species is still far from being well known (BAEHR 1985). This is especially true for the northern species. *Poecilometis* belongs to the tribe Halyini or, in the sense of GROSS (1975, 1976) to his „*Poecilometis*-group“ which, in Australia, includes about 20 additional genera. *Poecilometis*, however, is by far the largest genus and comprises at present 38 species and 7 additional subspecies (according to GROSS 1976). So far as the habits and life histories of *Poecilometis* species are known, these are tree-living bugs mostly collected on or under the bark of Eucalypts, especially of River Eucalypt (*Eucalyptus camaldulensis*), but also on Mallee Eucalypts and even other species. In 1984, the author had the opportunity to collect several *Poecilometis* species in northern and northwestern Australia. This is certainly the least well known part of Australia, as far as knowledge on occurrence and distribution of *Poecilometis* species is concerned. It can be readily observed by an examination of the number of examined specimens of northern species in the revision of GROSS (1972). For that reason collecting records of northern species are worth noting, the more, as they comprise records of apparently very rare species and of a new species.

The material mentioned is located in the Zoologische Staatssammlung München, the holotype of the new species shall be offered to the Australian National Insect Collection, Canberra.

## Acknowledgements

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## The species

### *Poecilometis spenceri* Bergroth

A light coloured species from arid regions of all northern states. It is easily distinguished from related species by the presence of several conspicuous yellow „veins“ on the corium and by the rather narrow, elongate shape. Although there are apparently but few specimens known from Western Australia, *P. spenceri* is actually one of the most common species in northwestern Australia and may be collected in rather large numbers from below sheets of bark of River Eucalypts.

New records (38 specimens): Northern Territory: Mary River, 60 km E. of Humpty Doo, 1.XI.1984; Victoria River, 11 km W. of Timber Creek, 10.XI.1984. – Western Australia: Denham River, 18 km S. of road crossing to Hall's Creek, 14.XI.1984; Ord River, 105 km N. of Hall's Creek, 15.XI.1984; Mary River, 115 km WSW. of Hall's Creek, 17.XI.1984; Fitzroy Crossing, 19.XI.1984; Fitzroy River at Willare, 25.XI.1984.

### *Poecilometis vallicola* spec. nov. (Figs. 1-3)

Types. Holotype: ♂, Dales Gorge, 60 km SE. of Wittenoom, Hamersley Range, Western Australia, 30.XI.1984, on River Eucalypt, M. Baehr (Australian National Insect Collection, Canberra). Paratypes: 1 ♂, same locality, same date (Zoologische Staatssammlung München); 1 ♂, Vampire Gorge, 50 km SE. of Wittenoom, Hamersley Range, Western Australia, 2.XII.1984, on River Eucalypt, M. Baehr (Zoologische Staatssammlung München).

Type locality. Dales Gorge, Hamersley Range, Western Australia.

Diagnosis. A medium-sized, rather wide species of uniformly light brownish appearance with some light coloured veins on corium and acute, though not spined posterior pronotal angles, best characterized by structure of ♂ pygophore.

Measurements. Length: 17.8-18.1 mm, width: 7.8-7.9 mm; ratio of antennal segments: 3: 1.7-1.8: 4.2-4.6: 2.9-3.2: 2.2-2.5.

Colour. Ground colour of upper surface light yellow, whole surface densely punctate with brownish punctures. Anteclypeus medially impunctate, with a conspicuous light stripe, juga with two indistinct light stripes, laterally widely yellow. Light parts of anteclypeus and juga basally greyish. Orbits yellow, impunctate. Antennophore laterally and side of head in front of eyes densely punctate, dark. Antennae yellow, 1st and 2nd segments rather densely punctate, terminal segments nearly impunctate, slightly darker. Pronotum with a narrow light median stripe, lateral and basal borders narrowly yellow. Pronotum also with a less conspicuous light stripe rather laterally on each side which is fading to base and slightly sinuate near apex. Dense brown puncturation is arranged in four very indistinct bands, hence pattern of pronotum is composed of fairly inconspicuous dark and light bands, most distinct near apex. Scutellum with rather regular and dense puncturation, only humeral callus and a median basal spot impunctate and light. Apex narrowly bordered with white. Hemelytra densely and regularly punctate, without dark or light spots, just some veins near inner and outer border of mesocorium, and an additional vein near apex of corium narrowly yellow. Membrane light, translucent, veins brownish. Lower surface whitish with scattered small brown punctures. Dorsal border of proepisternum narrowly black. Punctures on abdomen very small, reddish, laterally more dense than medially. Connexivum densely punctate, lateral border light. Pygophore without dark markings. Legs yellow, anterior surface of femora and upper surface of tibiae rather densely punctate with brownish punctures.

Head. Elongate, about twice as long as wide between eyes. Anteclypeus far surpassing juga. Juga laterally slightly sinuate above antennophore, their apices obliquely rounded. Antennae fairly elongate, 5-segmented, relative length of segments see above, rather variable; 2nd segment in holotype nearly half of 3rd segment, in both paratypes shorter. 1st segment sparsely and very finely setose, especially near apex. 2nd segment also sparsely setose, 3rd to 5th segments densely pilose and setose, pilosity de-

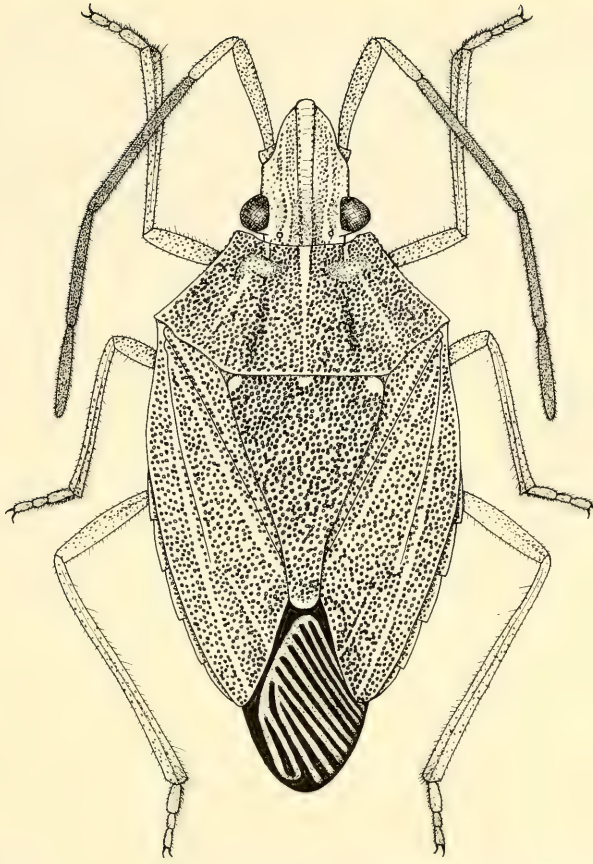


Fig. 1. *Poecilometis vallicola* spec. nov., ♂ holotype (Australian National Insect Collection, Canberra). Scale: 5 mm.

pressed, setae erect, short. Eyes slightly removed from apex of pronotum, ocelli in a line with posterior border of eyes. Rostrum attaining middle of 2nd (visible) abdominal segment. 1st segment much longer than bucculae, 2nd segment as long as 3rd and 4th segments together. Punctures on upper surface of head in parallel rows with wide smooth areas between them. Punctures much smaller than punctures on pronotum, scutellum, and hemielytra.

**Pronotum.** Nearly twice as wide as long. Anterior border excavate, excavation rather straight in middle. Apex near anterior angles slightly transverse, angles with a very small tooth. Sides slightly and regularly concave, slightly serrate in anterior half. Posterior angles acute, but not spined. Base shortly excavate behind posterior angles, then slightly sinuate. Median part of base straight. Puncturation especially near sides and near apex dense, leaving a distinct, smooth, median stripe and a rather indistinct smooth stripe rather laterally on each side. Punctures much larger than on head, with exception of punctures near apex which are smaller.

**Scutellum.** About twice as long as wide. Sides straight, in last quarter nearly parallel. Apex rounded. Apart from the small humeral calli and a very small median basal spot, puncturation regular and dense. Punctures large.

**Hemielytra.** Mesocorium wedge-shaped, apical border nearly straight. Exocorium basally wide, lateral border convex. Whole hemielytra densely and regularly punctate, puncturation leaving just some

narrow, inconspicuous, smooth veins near median borders of mesocorium and exocorium, and near apex of mesocorium. Membrane surpassing apex of abdomen by about half of its length. Membrane without closed cells.

Lower surface. Laterotergites slightly dentate. Posterior border of forelast abdominal segment deeply excised in a v-shaped manner, posterior border of last sternite widely excised. Lower surface of head and thorax moderately densely punctate, on mesothorax puncturation less dense. Abdomen finely, medially rather sparsely, laterally more densely punctate. Punctures very small.

Legs. Moderately elongate. Femora and tibiae regularly pilose and hirsute, tarsi pilose. Femora conspicuously punctate, puncturation of tibiae less dense and less conspicuous.

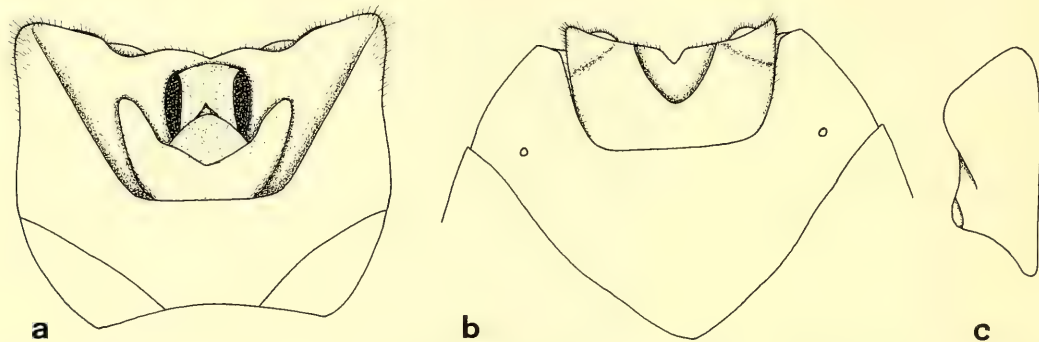


Fig. 2. Male genitalia of *Poecilometis vallicola* spec. nov. a. Pygophore, dorsal view; b. Pygophore, ventral view; c. Clasper.

♂ Pygophore. Pygophore (Fig. 2a, b) gently concave at apex, ventrally with a deep, horseshoe-shaped impression. Claspers (Fig. 2c) simple, somewhat trapezoidal.

Variation. As far as can be judged from the few known specimens, this species shows little variation, except for relative length of antennal segments. Especially 2nd segment varies between  $1/3$  to about  $2/5$  of length of 3rd segment.

Distribution (Fig. 3). Thus far recorded from northern part of Hamersley Range, Western Australia; real distribution, however, far from being exactly known.

Habits. All specimens were discovered under bark of River Eucalypts near to permanent streams in deep gorges; in Dales Gorge together with *P. nigriventris nigriventris*. Thus far collected at the end of November to the beginning of December.

*Poecilometis vallicola* spec. nov. belongs to a group of medium sized, light coloured species without spined posterior pronotal angles and with 2nd antennal segment about  $1/3$  to  $1/2 \times$  as long as 3rd segment. The next relatives of *P. vallicola* within this group are *P. borealis* Distant, *P. spenceri* Bergroth, and *P. griseicolor* Gross. Of these species, however, only *P. spenceri* occurs in the same area. *P. borealis* occurs in Northern Territory, western Queensland, and South Australia, and *P. griseicolor* is only known from central Queensland. From all species *P. vallicola* spec. nov. is well distinguished by its ♂ pygophore. This can be observed without dissection from the apical region of pygophore (see GROSS 1972 for figures of other species). In addition to structure of ♂ genitalia there are some other characters which distinguish *P. vallicola* from the species mentioned: *P. borealis*: In *P. vallicola* spec. nov. body is less wide, membrane more elongate, dark and yellow stripes on head and yellow stripes on pronotum are present. *P. spenceri*: In *P. vallicola* spec. nov. body is wider and shorter, light median stripe on scutellum absent, light veins on hemelytra are fewer and far less conspicuous, on corium no dark spot is present. *P. griseicolor*: In *P. vallicola* spec. nov. body is wider and shorter and veins on corium are less distinct.

Certainly *P. vallicola* spec. nov. is an endemic species of the Hamersley Ranges, where the few known specimens have been yet discovered only in the gorges, in spite of careful searching also on other eucalypts on the plains, where for example *P. calidus* Walker occurs.

### **Poecilometis patruelis y-nigrum Bergroth**

One of the most widely distributed species of *Poecilometis*, especially with regard to this inland and northern subspecies which occurs in all states, apparently with exception of Queensland.

New records (6 specimens): Western Australia: Mary River, 115 km WSW. of Hall's Creek, 17. XI. 1984; De Grey River, 80 km NE. of Pt. Hedland, 27. XI. 1984; Fortescue River, 137 km SE. of Roebourne, 6. XII. 1984; Minilya River, 148 km N. of Carnarvon, 12. XII. 1984.

All specimens caught from River Eucalypt.

### **Poecilometis mimicus (Distant) (Fig. 3)**

A very rare northern species, of which only 6 specimens have been ever collected (GROSS 1972). The new record from northwestern Australia enlarges the known range of this species to a considerable extent and demonstrates that it ranges through all of northwestern Northern Territory and northwestern Australia north of Great Sandy Desert.

New records (3 specimens): Northern Territory: Victoria River near Roadside Inn, 85 km E. of Timber Creek, 9. XI. 1984. — Western Australia: Mary River, 115 km WSW. of Hall's Creek, 17. XI. 1984.

All specimens caught from under bark of River Eucalypts.

### **Poecilometis calidus Walker**

Another rather common species which is widespread in northern parts of Australia. The material mentioned below shows remarkable variability of size, pattern, and colour.



Fig. 3. Distribution of *Poecilometis vallicola* spec. nov.: ● and of *Poecilometis mimicus* (Distant): ◆.

New records (10 specimens): Northern Territory: Mary River, about 60 km E. of Humpty Doo, 1. XI. 1984. – Western Australia: 75 km SE. of Derby, 21. XI. 1984; Joffre Falls, 70 km SE. of Wittenoom, Hamersley Range, 1. XII. 1984; Wittenoom Gorge, 10 km S. of Wittenoom, Hamersley Range, 2. XII. 1984.

Only specimens from Mary River and from Wittenoom Gorge were caught from River Eucalypts, those from the other localities were collected from different sorts of Eucalypts, all far away from water on the plains above the gorges or in sandhill country.

### **Poecilometis nigriventris nigriventris (Dallas)**

This northern nominate subspecies of a widely distributed species is rather common in north-western Australia. According to GROSS (1972) the populations of the nominate subspecies living in the Kimberley Division are separated from the populations south of Great Sandy Desert by a population of the inland subspecies *P. nigriventris superbis* which reaches to the coast only in the Derby-Broome area. I possess specimens from both, the northern and the southern populations, but I am unable to find any conspicuous differences between them which should merit a subspecific separation, as GROSS (1972) proposed. There are, however, rather striking differences between my Western Australian specimens and specimens from Katherine Gorge, Northern Territory. Specimens from Katherine Gorge are unusually small – a ♂ specimen measuring 18.5 mm only – and have a fairly contrasting pattern on pronotum, scutellum, and hemielytra much similar to the Queensland subspecies *P. n. decoratus*. Especially lateral borders of scutellum are completely and strikingly bordered with white. Differing from Western Australian specimens, they have a conspicuous yellow sublateral streak on each side of abdomen and a transverse bar at base of 3rd ventrite.

The differences between specimens from northernmost Northern Territory and northwestern Queensland on the one hand and specimens from Western Australia on the other, are much more striking, than differences between specimens from Western Australia north of Great Sandy Desert and specimens from south of it. Hence, I think it more likely, that the populations from Northern Territory and northwestern Queensland may be considered an own subspecies and the Western Australian specimens another subspecies. However, it is not evident which should be designated the nominate subspecies, as the holotype is apparently without exact locality, even without specification of state. This question, however, should be solved only by consideration of the whole material available which at present I am not prepared to do.

New records (19 specimens): Northern Territory: Katherine Gorge, 7. XI. 1984. – Western Australia: Windjana Gorge, 150 km E. of Derby, 22. XI. 1984; Dales Gorge, 60 km SE. of Wittenoom, Hamersley Range, 30. XI. 1984; Kalamina Gorge, 65 km SE. of Wittenoom, Hamersley Range, 1. XII. 1984; Wittenoom Gorge, 10 km S. of Wittenoom, Hamersley Range, 2. XII. 1984; Fortescue River, 137 km SW. of Roebourne, 6. XI. 1984.

All Western Australian specimens were caught at or under bark of River Eucalypts at the edge of rivers or pools, the Katherine Gorge specimens, however, have been collected from other Eucalypts far away from water in sandstone country.

### **Poecilometis nigriventris superbis (Distant)**

This is the desert subspecies of *P. nigriventris* which reaches the coast in a narrow corridor at the northern fringe of Great Sandy Desert. It is distinguished by the very contrasting dark and light pattern.

New records (1 specimen): Western Australia: Fitzroy Crossing, 19. XI. 1984.

The specimen was caught from River Eucalypt near the edge of Fitzroy River.

## Literature

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